URANIUM IN AIRBORNE PARTICULATES AT FERNALD USING "DYNAWEB" FILTERS

Carl T. Bishop, et. al.

Fernald Environmental Restoration Management Corporation
P. O. Box 398704
Cincinnani, OH 45253

Dynaweb–DW7301L, a polypropylene filter medium has replaced fiberglass as a filter used to monitor for uranium in airborne particulates at the Fernald site. Eight inch by ten inch filters can be used to sample the air for a two week period at the Air Monitoring Stations; the fiberglass filters could only be used for a one week sampling period.

The Dynaweb filters were found to be lower in uranium content than the glass fiber filters. This results in a lower detection limit for the determination of uranium in air, which becomes more significant as the Fernald site is cleaned up. The use of Dynaweb also eliminates the use of the large quantities of hydrofluoric acid which were required in the acid dissolution of the fiberglass filters. This results in a dissolution process that is safer and less time consuming.

The Dynaweb filters are being used at 20 air monitoring stations located onsite, near the site fenceline, and at several locations in nearby communities. The filter medium is also being used at air sampling stations surrounding buildings that are being demolished. Using the Dynaweb filters, a rapid dissolution technique, and a laser phosphorescence method of total uranium determination, results in a rapid and accurate uranium in air measurement.